

Arnold Engineering Development Center Arnold Air Force Base, Tenn. 37389

An Air Force Materiel Command Test Facility

Test Before Flight

10V Space Chamber

The 10V Space Chamber is a state-of-the-art deep space environment simulation test facility designed to test high performance interceptors and surveillance sensors. The chamber shares vehicle handling and target systems with the 7V Space Chamber as well as support infrastructure. The facility consists of a 10-foot-diameter by 30-foot-long chamber containing a full gaseous helium thermal shroud and an optically clean vacuum pumping system. A 300,000-pound seismic mass allows vibration isolation of the optical bench and all optical elements. The chamber is surrounded by a class 1000 clean room.



Thermal Control A gaseous helium shroud permits

deep space environment simulation

down to 20 degrees Kelvin.

Vacuum Range $\leq 1x10^{-7}$ Torr 5x10⁻⁷ Torr to local

atmospheric pressure.

Working Volume 10-foot-diameter x 30-foot-long.

Support Structure 300,000-pound seismic mass system provides an optical line-of-site vibrational stability of

the internal optical bench of less than 1 microradian.

Pumping System Turbo molecular and cryogenic shroud capable of temperatures down to 20 degrees Kelvin.

Loading Horizontal: 10-foot opening at each end.

Cold Wall Full gaseous helium cryogenic shroud capable of temperatures down to 20 degrees Kelvin.

Special Features Chamber is housed within a Class 1000 clean room. A Class 100 clean tent is available for

high cleanliness requirements.

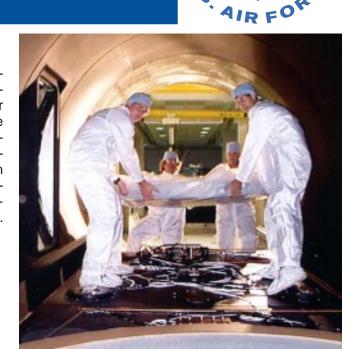
Data All facility data time tagged and archived. Test article data archived if requested.

Work Areas Test customer offices available. Limited hardware storage available.

Solar Simulation Infrared lamp arrays available on request.

Contact Bobby W. Smith (931) 454-6519 bobby.w.smith@arnold.af.mil





10V Mirror Test

Photo # PADR00

AEDC Public Affairs • 100 Kindel Drive, Suite B-213 • Arnold AFB, TN 37389-2213 (931) 454-5586 • DSN (931) 340-5586

For information on AEDC visit our Web site at www.arnold.af.mil

Release # 2000-262